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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,130	08/22/2005	Jens Muller	GRUNP45	9557
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EXAMINER				
WU, IVES J				
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11/06/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/520,130

Applicant(s)

MULLER ET AL.

Examiner

IVES WU

Art Unit

1797

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,5,7,8,11,18 and 23 is/are rejected.
- 7) ☒ Claim(s) 3,4,6,9,10,12-17 and 19-22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/06)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Paper No(s)/Mail Date _____
- 6) ☐ Other: _____

DETAILED ACTION

- (1). Applicants' Amendments and Remarks filed on 08/25/2008 have been received. Claim 1 is cancelled. Claims 2, 4-8 are amended. New claims 21-23 are added. The rejection of claim 1 in prior Office Action dated 07/02/2008 is withdrawn accordingly.

A new ground of rejections for claims 2-23 is introduced herein below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

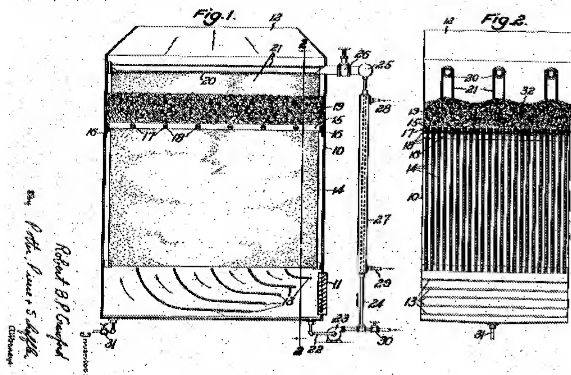
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

- (2). **Claims 2, 5, 7-8, 11, 18, 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Crawford (US 2198305) in view of Adams et al (US 4491566).

As to a lower section with fluid feeding device and a liquid discharging device; an upper section with a fluid feeding device and a gas discharging device, a contact device which is provided such that gas rising from the lower section into the upper section is contacted with liquid which sinks from the upper section into the lower section wherein the contact device comprising a sponge-like and/or porous material in a fluid separating device in **independent claim 2**, Crawford (US 2198305) discloses gas and liquid contact apparatus (Title). As shown in the Figure below:



It illustrates the gas inlet 11, gas outlet 12, liquid inlet 20/21, liquid outlet 22 and 31, porous material 14 – contact member which read on the features as claimed.

As to a measuring device for determining the amount of liquid in the lower section and/or for determining alternations of amount of liquid in **independent claim 2 claim 5, and claim 11**, Crawford (US 2198305) discloses the liquid contact agent collecting in the lower portion of the contactor being returned through pipe 22, pump 23 and pipe 24 to the header 25 (page 1, col. 2, line 25-28). Liquid may be removed from the system at 31 (page 1, Col.2, line 35-36). Crawford **does not teach** the measuring device as claimed.

However, Adams et al (US 4491566) **teach** automatic CO₂ removal system and operation thereof (Title).as shown in the Figure 1, the Level sensor L and L4 which reads on the limitation as claimed.

The advantage of level sensors L4 is for operating the output flow (Col. 4, line 63- 66).

Therefore, it would have been obvious at time of the invention to install the level sensor assembly of Adams et al in the lower portion of the gas-liquid contact device of Crawford in order to attain the advantage as cited.

As to upper section comprising means for condensing at least a part of gaseous components of the supplied fluid and/or evaporating at least a part of liquid components of the supplied fluid in **claims 7 and 18**, Crawford (US 2198305) discloses, for the purpose of illustration with reference to the accompanying drawing showing apparatus especially suited for contacting the air with a moisture-absorbing medium, for the purpose of reducing the humidity of the air (Col. 1, line 41-47, page 1).

As to the upper section comprising means for avoiding a discharging of liquid through the gas discharging device of the upper section in **claims 8 and 23**, as shown in the Figure above, which illustrates feature as claimed.

Allowable Subject Matter

(3). **Claims 3-4, 6, 9-10, 12-17, 19-22** objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:
The contact device essentially occupies the complete lower section as well as the overflow pipe in the contact device as claimed by Applicants, overcome the prior art cited above.

Response to Arguments

Applicant's arguments with respect to claim 2 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to IVES WU whose telephone number is (571)272-4245. The examiner can normally be reached on 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Examiner: Ives Wu

Art Unit: 1797

Date: October 27, 2008

/Duane S. Smith/
Supervisory Patent Examiner, Art Unit 1797
11-4-08